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ABSTRACT

According to the Theory of Work Adjustment, a relationship exists between vocational needs and developmental and concurrent experiential factors. A test of this hypothesis was conducted using self report biodata and measured vocational needs. A 211 item Biographical Information Form (BIF) and the Minnesota Importance Questionnaire (MIQ) were administered to 290 female adults. A weighted BID was developed for each of the 20 MIQ need scales and Total Circular Triad (TCT) score from the biodata items. Using a double cross-validation design, statistically significant average double cross-validities were obtained for 19 of the 20 vocational need scales and TCT score ranging from .27 to .47 with a median average double cross-validity of .35. Statistically significant upper bound validity estimates were obtained for the 20 vocational need scales and TCT score ranging from .43 to .59 with a median validity coefficient of .53. Finally, an analysis of the predictive utility of the BIF showed that experiential factors and the vocational needs have, on the average, over half their variance in common. An illustrative example of BIF items that were related to two of the MIQ need scales were presented. (Author)

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The Relationship Between Vocational Needs and Experiential Factors

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The Relationship Between Vocational Needs

and Experiential Factors

In vocational counseling, counselors help clients to explore and identify experiences such as social activities, educational and work experiences, that reflect their needs, values, and interests. Frequently, counselors encourage clients to involve themselves in experiences presumed to facilitate vocational maturity. Both these procedures are intended to help clients clarify their needs, values, and interests.

Owens (1968) has formulated a model for examining the relationships between individuals' prior experiences and their behavior in future situations. Theoretical literature on vocational behavior (Super, 1957; Roe, 1953, 1957; Holland, 1966; Dawis & Lofquist, 1969) suggest a two-way interplay between environmental experiences and needs, values, and interests. Few studies have empirically investigated this phenomenon. Nor have the various theoretical approaches of vocational development and choice specified the experiences or described the specific form of relationship between experiential variables and particular needs, values, and interests. Empirical research must add these details.

The present study is concerned with the relationship of experiential variables and vocational needs as measured by the Minnesota Importance Questionnaire (MIQ; Gay, Weiss, Hendel, Dawis, & Lofquist, 1971), within the context of the Theory of Work Adjustment (Dawis, Lofquist, & Weiss, 1968; Lofquist & Dawis, 1969). This theory assumes that an individual's vocational needs are determined by a past history of reinforcement.

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Reinforcers are broadly conceptualized as sets of environmental stimuli and conditions and experiences with these stimuli and conditions. It is hypothesized that previous experiences with reinforcers should be related to vocational needs. Previous research investigating this hypothesis has shown a relationship between vocational needs and (a) extracurricular activity participation during adolescence (Gray, 1974), and (b) developmental correlates and related demographic information (Meresman, 1975).

The purpose of the present investigation was to explore the relationship between vocational needs and developmental and concurrent experiential factors and to construct a weighted biographical information form to predict vocational needs. A behavioral biographical item pool was used to assess concurrent experiential data and work history information with a female adult, primarily nonstudent, sample.

Method

Subjects. As shown in Table 1, the sample consisted of females from two sources: 261 nonstudent clients receiving vocational assessment at a university clinic and 29 university students.

Instruments. The instruments used were the 1967 Revision of the Minnesota Importance Questionnaire (MIQ; Gay, Weiss, Hendel, Dawis, & Lofquist, 1971) and a Biographical Information Form.

The MIQ is a 210-item paired comparison instrument with an absolute judgment section. It measures the strength of 20 vocational needs which are listed in Table 2. In addition, the MIQ produces a Total Circular Triad score which indicates how logically consistent the individual is in responding to the MIQ items.

The Biographical Information Form was constructed with behavioral items that were hypothesized to be associated with each MIQ need. Several criteria were followed in generating the 211 items for the Biographical

Information Form. The items had to be (a) verifiable, (b) hypothesized as relevant to one or more MIQ needs, (c) behavioral in nature, (d) concurrent and developmental, and (e) concerned with one or more areas of a person's life. Small group and seminar brainstorming sessions were used to generate and revise the 211 items. Specifically, the Biographical Information Form includes open-ended items covering work and educational history and multiple choice items with comprehensive response alternatives covering job and spare-time activities, as well as demographic information. Although the Biographical Information Form is primarily concerned with concurrent experiential variables, a section is included which surveys experiences prior to age 18.

Procedure. Vocational Assessment Clinic clients completed the MIQ and the Biographical Information Form as part of a standard test battery while the university students completed these instruments in conjunction with their course work in psychology.

Analysis. The analysis proceeded in three stages. First, biographical items which, on the basis of eta or product moment coefficients, correlated at a .05 level of significance were retained for further analysis.

The second step used the Reciprocal Averages Prediction Technique (RAPT; Horst, 1935; Weiss, 1963) to develop differential item weighted composites to predict each MIQ need from the corresponding subset of biographical items retained in step one. A double cross-validation design was employed and the total sample was randomly divided into two subsamples of 145 subjects apiece. The Reciprocal Averages equation developed on Sample A was cross-validated on Sample B and the equation developed on Sample B was cross-validated on Sample A. The mean of these two cross-validations was taken as the lower bound estimate (Campbell, 1974) of the degree to which MIQ needs could be predicted from weighted combinations

of biographical items. An upper bound estimate was calculated by developing Reciprocal Averages Prediction equations for the total sample.

Third, the predictive utility of the Biographical Information Form was determined by (a) calculating within scale score predictive stability between the weighted Biographical Information Form MIQ scores and the observed MIQ scores and (b) correlating the predicted MIQ scale score profile with the observed MIQ profile for the total sample.

Results

For each MIQ need, Table 2 contains information on (a) the number of significant biographical items, (b) the predictor-criterion correlation for the total sample, (c) the internal consistency reliability, and (d) the mean and standard deviation for the absolute differences between MIQ scores predicted on the basis of biographical information and the observed MIQ scores.

As described in Table 3, the results showed that a weighted biographical information form could be used to predict 19 of the 20 MIQ needs and the Total Circular Triads score. Only the results for Moral Values failed to cross-validate.

Different kinds of experiential data were related to vocational needs. To illustrate, examples of items that were related to two of the MIQ needs, Creativity and Security, are presented. Women with a high need for Creativity tended to be educated beyond high school, were more likely to possess either a bachelor's or no degree and less likely to have an associate degree or vocational certificate. In their spare time, high scorers on Creativity spent less time watching TV and more time reading classical literature and job-related materials and devoted more hours a week to interest activities such as attending concerts and plays and composing music or creating works of art. Regarding their work history, high scorers were more likely to

develop projects others completed, supervise others, see the finished product of their work, work with words or ideas, and advise or counsel others. During their high school years, women with a high need for Creativity spent more time in art and crafts activities, building or fixing things, and extracurricular activities and took more science and social science classes than business courses.

In contrast, women with a high need for Security were more likely to possess an associate degree or technical certificate and less likely to hold a bachelor's degree, more likely to be either single or married for the second time, and if married, to be married less than six years. In their spare time, high scorers on Security tended to spend more time watching TV and less time reading best sellers and magazines, less time pursuing interest activities, and were less likely to belong to interest groups or to hold an office in these organizations. Finally, high Security women were more likely to keep an exact account of their spending and to have spent more of their time doing housework during high school.

The predictive utility of the Biographical Information Form is seen in Table 4. Individual scale score stability analysis showed no shift in range from high to moderate or moderate to low between predicted and observed MIQ scale scores for 60.9% of the cases. A shift across one boundary, such as from low to moderate, occurred 36.3% of the time, while a shift across two boundaries, such as from high to low or vice versa occurred in only 2.9% of the instances. By comparison, the test-retest score stability analysis for the MIQ (Rounds & Dawis, 1975) showed no shift in range for 77.7% of the cases, a shift across one boundary 21.8% of the time, and a shift across two boundaries in only .4% of the instances. Finally, the correlation between predicted and observed MIQ scale score profiles ranged from .15 to .94 with a median of .74. Thus, the experiential

factors and the vocational needs have, on the average, over half their variance in common.

Conclusion

The results of this study provide support for the hypothesis that measured vocational needs and environmental experiences are related. Further, it demonstrates that a weighted biographical information inventory, emphasizing concurrent behavioral and status items, can be used to predict vocational needs. This weighted Biographical Information Form could serve as a tool for counselors to use in clarifying their clients' vocational needs, especially in cases where there is a discrepancy between a client's expressed needs and needs as measured by the MIQ. Finally, the results supply specific lists of related experiences and the form of the relationship between a particular need and a particular experience.

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Table 1

Descriptive Characteristics of the Vocational Assessment Clients and University Students

Characteristic	VAC N[a]	VAC %	US N	US %
Age				
18 to 25	52	20.6	20	69.0
26 to 35	118	46.9	8	27.6
36 to 45	55	21.8	1	3.4
over 45	27	10.7	--	--
Marital Status				
Married	128	51.6	10	34.5
Single	70	28.2	19	65.5
Other	50	20.2	--	--
Years of Education				
Less than 12	2	.8	--	--
12	52	21.2	--	--
13 to 16	163	66.2	18	62.1
over 16	29	11.8	11	37.9
Employment Status				
Employed, full-time	99	40.7	1	3.4
Employed, part-time	45	18.5	19	65.5
Unemployed, seeking work	22	9.0	--	--
Not in labor force	77	31.7	9	31.0

Note. VAC , N = 261 and US, N = 29.

[a]The Vocational Assessment Clients N for age, marital status, years of education and employment status does not equal 261 because of incomplete data.

Table 2

Validation and Internal Consistency Reliability of BIF,

Together with Absolute Difference Scores for the Total Sample

MIQ Scale	No. BIF Items	r[a]	Hoyt r	Absolute Difference Scores M	SD
Ability Utilization	19	.47	.49	.49	.38
Achievement	20	.57	.45	.39	.31
Activity	37	.45	.84	.75	.53
Advancement	42	.52	.80	.57	.44
Authority	47	.55	.81	.62	.45
Company Policies and Practices	22	.53	.50	.50	.38
Compensation	24	.44	.71	.61	.47
Co-workers	15	.48	.38	.52	.40
Creativity	55	.51	.86	.51	.39
Independence	41	.55	.78	.63	.48
Moral Values	35	.48	.73	.94	.71
Recognition	21	.55	.45	.47	.39
Responsibility	50	.43	.89	.53	.46
Security	41	.59	.71	.60	.45
Social Service	30	.58	.81	.71	.54
Social Status	29	.58	.53	.65	.53
Supervision-Human Relations	25	.54	.63	.55	.43
Supervision-Technical	37	.58	.70	.51	.38
Variety	24	.48	.57	.68	.51
Working Conditions	18	.51	.42	.50	.40
TCT	33	.45	.82	25.85	21.22

Note. Full sample N = 290.

[a]All correlations statistically significant at $p < .001$.

Table 3

Double Cross-validation of the Biographical Information Form

MIQ Scale	Development r[a]		Cross-validated r[b]		Average r[c]
	Sample A	Sample B	Sample A	Sample B	Cross-validated
AU	.48	.58	.26	.24	.25
Ach	.65	.58	.47	.41	.44
Act	.54	.51	.29	.35	.32
Adv	.58	.59	.37	.45	.41
Au	.66	.60	.35	.45	.40
CPP	.58	.67	.20	.28	.24
Com	.52	.53	.30	.29	.30
Cow	.50	.59	.28	.36	.32
Cre	.54	.60	.38	.35	.37
Ind	.61	.63	.38	.40	.39
MV	.63	.52	.12	.14	.13
Rec	.64	.57	.32	.37	.35
Res	.47	.57	.24	.29	.27
Sec	.68	.67	.49	.44	.47
SSe	.62	.72	.41	.39	.40
SSt	.62	.68	.34	.35	.35
SHR	.55	.65	.26	.35	.31
ST	.69	.65	.27	.33	.30
Var	.55	.55	.31	.32	.32
WC	.57	.58	.25	.36	.31
TCT	.49	.55	.37	.35	.36

Note. Sample A, N = 145 and Sample B, N = 145.

[a]All developmental correlations statistically significant at $p < .001$.

[b]All cross-validated correlations statistically significant at $p \leq .01$ except the MV scale.

[c]All average correlations statistically significant at $p < .01$ except the MV scale.

Table 4

Importance Level Differences Between Weighted BIF

Predicted and MIQ Observed Scale Scores for the Full Sample

	Scale score x	Weighted BIF Predicted			
		$-4 \geq x \leq 0$	$.1 \geq x \leq 1$	$1.1 \geq x \leq 4$	
MIQ Observed	$-4 \geq x \leq 0$	836 (15.3)	502 (8.7)	100 (1.7)	1488
	$.1 \geq x \leq 1$	460 (7.9)	1146 (19.8)	551 (9.5)	2157
	$1.1 \geq x \leq 4$	68 (1.2)	593 (10.2)	1494 (25.8)	2155
		1414	2241	2145	

Note. Numbers in parentheses refer to total cell percentages.

Examples of Biographical Items that are Related to MIQ Needs

MIQ Scale	Item Description	Direction
AU	Satisfaction with most recent job	+
AU	Hours per week in physical exercise	+
AU	Art work or crafts	+
Ach	Job liked best: sell or entertain	+
Ach	Hours per week working	+
Ach	Hours per week with interest activities	-
Act	Highest degree or certification	-
Act	Fixing things, working on cars	+
Act	Job liked best: work with words, ideas	-
Adv	Highest degree or certification	-
Adv	No. of interest groups	-
Adv	Job liked best: work with numbers	+
Auth	Longest job: amount of supervision	-
Auth	Job liked best: advise or counsel others	+
Auth	Job liked best: supervise others	+
CPP	Going to taverns	-
CPP	No. different jobs held in last 5 years	-
CPP	No. different homes lived in before age 18	+

MIQ Scale	Item Description	Direction
Com	Highest degree or certification	-
Com	Walking or jogging	-
Com	Hours per week working	+
Cow	No. times married	-
Cow	Longest job: communicate with others	-
Cow	Hours per week dressing, eating	+
Cre	Composing music, writing, designing	+
Cre	Job liked best: develop projects	+
Cre	More business than social science courses during high school	-
Ind	Highest degree or certification	-
Ind	Most recent job	+
Ind	No. people spent free time with before age 18	-
MV	Games like pool or cards	-
MV	No. of political organizations	+
MV	More business than math courses during high school	-
Rec	Proportion of people seen socially with higher income	+
Rec	Longest job: supervise others	+
Rec	No. adults lived with before age 18	-

MIQ Scale	Item Description	Direction
Res	If married now, no. years married	-
Res	Hours per week, most recent job	+
Res	Job liked best: communicate with others	+
Sec	Watching TV	+
Sec	No. of offices in interest groups	-
Sec	During high school, time spent with housework	+
SSe	No. of people seen socially per week	+
SSe	No. of awards received	+
SSe	Years of school completed	-
SSt	Proportion of people seen socially with a higher income	+
SSt	No. of political organizations	+
SSt	No. of offices, religious organizations	-
SHR	Knowledge of retirement income	+
SHR	No. of dependents	+
SHR	More shop than business courses during high school	+
S-T	No. of awards received	-
S-T	Outdoor activities during high school	+
S-T	More social science than shop courses during high school	-

MIQ Scale	Item Description	Direction
Var	Fixing things: working on cars	+
Var	Place or move large objects on job	+
Var	Art work or crafts during high school	+
WC	No. of offices in religious organizations	-
WC	Job liked best: handle small objects, typing	+
WC	No. jobs obtained through friends or family	+
TCT	Years of school completed	-
TCT	Health problems that limit activities	+
TCT	Before age 18, no. of adults lived with	+